



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/825,713

04/14/2004

Kuang-Yu Wang

SUP-005

9208

22888 7590 02/07/2008
BEVER HOFFMAN & HARMS, LLP
TRI-VALLEY OFFICE
1432 CONCANNON BLVD., BLDG. G
LIVERMORE, CA 94550

EXAMINER

BUI, HUNG S

ART UNIT

PAPER NUMBER

2841

MAIL DATE

DELIVERY MODE

02/07/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/825,713

Applicant(s)

WANG ET AL.

Examiner

HUNG S. BUI

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 20-23 and 25-32 is/are pending in the application.
- 4a) Of the above claim(s) 6-8, 11, 13-14, 22, 25-27, 29, 31 and 32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 9, 10, 12, 20, 21, 23, 28 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/30/2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/24/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/30/2007 has been entered.

Information Disclosure Statement

2. The IDS filed on 01/24/2008 have been considered and made of record.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 10, 12, 20-21, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simmons et al. [US 6,947,288] in view of Yamada et al. [US 5,461,256].

Examiner considered top panels 11 of the Simmons' reference and 7A of Yamada et al. reference as bottom covers and bottom panels 19 of the Simmons' reference and 7B of Yamada et al. as upper covers.

Regarding claim 1, Simmons et al. disclose a card type electronic apparatus (10, figure 2, column 3, line 35) comprising:

- a printed circuit board assembly (14, figure 2, column 3, line 39) assembly (PCBA);
- an upper cover (19, figure 2, column 3, line 45) comprising a plurality of upper sidewalls (sidewalls extended therefrom the top of the upper cover as shown in figure 2) extending substantially perpendicularly from a top exterior surface of the upper cover, each of the plurality of upper sidewalls including an upper mating feature (tabs 61, figure 6, column 5, line 19) disposed at lower ends thereof; and
- a lower plastic cover (11, figure 2, column 3, lines 39-40) comprising a plurality of lower mating features (channel 34, figure 6, column 5, line 19) and at least two lower sidewalls (see figure 6), the at least two lower sidewalls extending substantially perpendicularly from a bottom exterior surface of the lower cover, the plurality of lower mating features being inboard of the at least two lower sidewalls (see figures 1-2 and 6), disposed on an interior surface of the lower plastic cover;
- wherein the plurality of upper mating features are subsequently ultrasonically welded (figure 6, column 5, lines 10-13) to the plurality of lower mating features, and
- wherein the upper cover and the lower cover enclose the PCBA.

- Simmons et al. disclose the instant claimed invention except for the top panel being formed of a plastic and wherein the lower sidewalls are separated by a width that is wider than an external surface to external surface distance of the upper sidewalls.
- Yamada et al. disclose an electronic card (figures 2-3) having a top panel (7b, figure 2) and a bottom panel (7a, figure 2), wherein the top and bottom panels are formed of plastic (column 9, line 48) and wherein the lower sidewalls are separated by a width that is wider than an external surface to external surface distance of the upper sidewalls (see figures 2-3).
- It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the casing assembly design of Yamada et al. for the casing or Simmons et al., for the purpose of reducing weight or thickness of the electronic card.

Regarding claim 2, Simmons et al., as modified, disclose wherein at least two lower sidewalls completely surround the upper cover (figures 1 and 6).

Regarding claim 3, Simmons et al., as modified, disclose wherein at least two lower sidewalls partially surround the upper cover (see figure 1).

Regarding claim 4, Simmons et al., as modified, disclose wherein the at least two lower sidewalls form a slip fit with the upper cover (the tabs 61 being inserted/slip fit into the channel of the upper cover, as shown in figure 6).

Regarding claim 5, Simmons et al., as modified, disclose wherein the at least two lower sidewalls form an interference fit with the upper cover (see figure 6).

Regarding claim 10, Simmons et al., as modified, disclose each of the at least two lower sidewalls including a top surface (the two sidewalls of the lower cover include two channels 34, figure 6, wherein each channel has a pair of sidewalls 64, figure 6; and each sidewall channel defines a top surface) cooperating with the least two surfaces of the upper cover (see figure 6).

Regarding claim 12, Simmons et al., as modified, disclose the card type electronic apparatus being a memory stick card (column 1, lines 21-22).

Regarding claims 20-21, Simmons et al. disclose a card type electronic apparatus (10, figure 2, column 3, line 35) comprising:

- a printed circuit board assembly (14, figure 4, column 3, line 39, PCBA);
- an upper cover (19, figure 2, column 3, line 45); and wherein the upper cover comprises a plurality of upper sidewalls (34, figure 6) extending substantially perpendicularly from an upper exterior surface of the upper cover (as claim 24);
- a lower plastic cover (11, figure 2, column 3, lines 39-40), the lower plastic cover comprising a plurality of lower sidewalls extending substantially perpendicularly from a bottom exterior surface of the lower plastic cover, the plurality of lower sidewalls defining a pocket (channel 34, figure 6),
- wherein the upper cover is permanently (the upper cover is ultrasonically welded with the lower plastic cover, column 5, line 10-13) attached to the lower plastic cover at a seam within the pocket such that the lower ends of

the upper sidewalls are attached to an interior surface of the lower plastic cover inboard of the lower sidewalls; and

- wherein the upper cover and the lower cover enclose the PCBA.

Simmons et al. disclose the instant claimed invention except for the upper cover being formed of a plastic and having a planar upper surface and upper sidewalls extending perpendicularly from the planar upper surface, the upper sidewalls having respective lower ends and being separated by a first width; a lower cover having a width that is wider than an external surface-to-external surface distance of the upper sidewalls, whereby when the upper plastic cover is mounted on the lower plastic cover, both the upper sidewalls are disposed between the lower sidewalls.

Yamada et al. disclose an electronic card (figures 2-3) having a top panel (7b, figure 2) and a bottom panel (7a, figure 2); wherein the top and bottom panels are formed of plastic (column 9, line 48); wherein the top panel has a planar upper surface and upper sidewalls extending perpendicularly from the planar upper surface, the upper sidewalls having respective lower ends and being separated by a first width (see figures 2-3); wherein the lower panel has a width that is wider than an external surface-to-external surface distance of the upper sidewalls, whereby when the upper plastic panel is mounted on the lower plastic panel, both the upper sidewalls are disposed between the lower sidewalls (see figures 2-3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the casing assembly design of Yamada et al. for the casing or Simmons et al., for the purpose of reducing weight or thickness of the electronic card.

Regarding claim 28, Simmons et al. disclose each of the plurality of the lower sidewalls including a top surface (the two sidewalls of the lower cover include two channels 34, figure 6, wherein each channel has a pair of sidewalls 64, figure 6; and each sidewall channel defines a top surface) cooperating with the least two surfaces of the upper cover (see figure 6).

Simmons et al. disclose the instant claimed invention except for the upper cover being formed of a plastic.

Yamada et al. disclose an electronic card (figures 2-3) having a top panel (7b, figure 2) and a bottom panel (7a, figure 2), wherein the top and bottom panels are formed of plastic (column 9, line 48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the casing assembly design of Yamada et al. for the casing or Simmons et al., for the purpose of reducing weight of the electronic card.

Regarding claim 30, Simmons et al., as modified, disclose the card type electronic apparatus being a memory stick card (column 1, lines 21-22).

5. Claims 9 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simmons et al., as modified, as applied to claim 1 above, and further in view of Ramey et al. [US 5,505,628].

Regarding claims 9 and 23, Simmons et al., as modified, disclose the PCBA comprises one or more integrated circuits (Note: it's a well known in the art for a PC card have to include an integrated circuits thereon.)

Simmons et al., as modified, disclose the instant claimed invention except for the lower cover comprising one or more support structures, the one or more support structure being in contact with one or more unpopulated regions on the PCB.

Ramey et al. disclose a memory card (figure 13) having first and second covers (110, 111, figure 13), wherein one of the covers includes at least one or more support structure (131, figure 13) contacts with one or more unpopulated regions on a printed circuit board (116, figure 13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the structure support design of Ramey et al. in Simmons et al., as modified, for the purpose of preventing vibration of the printed circuit board in the casing of the PC card.

Response to Arguments

6. Applicant's arguments with respect to claims 1-14, 20-23 and 25-32 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Masuda et al. [US 6,686,663] disclose semiconductor device and a method of manufacturing the same;
- Miks et al. [US 7,011,251] disclose die down multi-media card and method of making same;

Art Unit: 2841

- Hoffman et al. [US 6,632,997] disclose personalized circuit module package and method for packaging circuit modules;
- Kobayashi et al. [US 6,407,925] disclose casing for electronic control devices.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung S. Bui whose telephone number is (571) 272-2102. The examiner can normally be reached on Monday-Friday 8:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gutierrez F. Diego can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



01/29/2008

Hung Bui

Art Unit 2841